

Applicant : Heinze, et al.  
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Attorney's Docket No.: 10036-002001

### REMARKS

Reconsideration and allowance of the above referenced application are respectfully requested.

Upon entry of this amendment, claims 1-41 and newly added claims 42-45 will remain in the application.

#### Response to Arguments

##### Section 103 rejections

Claims 1-41 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over the Friedman et al. reference, hereinafter "Friedman") in view of Caid et al. (US 5,619,709, hereinafter "Caid").

The Action states that the knowledge vectors of the claimed invention and the context vector of the reference cited (Caid) performed the same function. Applicants disagree.

Knowledge vectors are used to find semantic relationships in a document (see, e.g., page 17, line 19 to page 18, line 11 of the Specification) whereas context vectors are used to cluster documents based on statistical relationships (Caid, col. 17, lines 13-14, "Context vectors are the quantifications of the statistics of proximal co-occurrence."). Furthermore, Caid teaches away from the user of knowledge vectors (Abstract, "No human knowledge, thesaurus, synonym list, knowledge base, or conceptual hierarchy, is required.").

Clearly knowledge vectors and context vectors, by definition, are inherently different and do not perform the same functions. Accordingly, Applicants submit that the additional limitations of knowledge vectors, e.g., being generated manually, being of variable length, and weighted based on semantic rather than statistical factors, are not necessary to overcome the obviousness rejection based on Caid. However, Applicants have added claims 42-45, which depend from independent claim 1 and include these limitations. Accordingly, Applicants submit that claims 42-45 are allowable for the reasons given above and for their additional limitations.

The Action reiterates the rejection under 35 U.S.C. 103(a) given in the prior office action.

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The prior office action stated that Friedman fails to expressly disclose the use of knowledge vector processing in generating code. The Action then notes that Friedman does suggest the use of NLP to extract and structure clinical data. Applicants submit that there are many types of NLP techniques, not all of which utilize vector space methods. In fact, the MEDLEE system as implemented (see <http://cat.cpmc.columbia.edu/medleexml/demo/>) utilizes a linguistic string approach rather than a vector space approach.

Caid discloses a technique for generating context vectors for use in indexing documents. Context vectors differ from knowledge vectors in several significant ways, as described above. In fact, context vectors and knowledge vectors are, by definition, inherently different.

Consider exemplary independent claim 1, which recites in relevant part:

“(b) applying morphing, parsing and semantic analysis to the segments to generate a normalized file having a standardized form with parse items;  
(c) identifying first type matches between parse items of the normalized file and a plurality of standard knowledge vectors...”

Neither Friedman nor Caid, alone or in combination, teaches or suggests, segmenting or parsing a transcribed note based on semantic analysis or identifying type matches based on knowledge vectors. In fact, Caid teaches away from vector space methods that utilize manually entered vectors, such as the claimed knowledge vectors (column 1, lines 59-64). Accordingly, Applicant submits that the combination of Friedman and Caid is improper.